Appl. No. 10/688,277
Amendment dated July 24, 2006
Reply to Office Action of March 22, 2006

274.43266PX1

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawing includes changes to Figs. 12A and 12B. The attached sheet which includes Figs. 12A and 12B, replaces the original sheet of the same Figs.

Attachments: Replacement Sheet

Annotated sheet (showing changes)

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REMARKS / ARGUMENTS

Claims 1-12, 14, 15, 17-19, 21, 22 and 24 remain pending in this application. Claims 13, 16, 20 and 23 have been canceled without prejudice or disclaimer. No new claims have been added.

Claim Objections and Rejections Under 35 U.S.C. §112

Claims 3 and 6 have been amended as required by the Examiner. In addition, claims 1 and 4 have been amended to clarify that time consistency is also maintained between volumes.

Drawings

Applicants have provided Replacement sheets of drawings for Figs. 12A and 12B. In both Figs. 12A and 12B, the word "pare" has been changed to --pair-- for correcting inadvertent errors. Acceptance of the proposed drawing changes is respectfully requested.

35 U.S.C. §103

Claims 3, 6, 12, 18, 21 and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kazar et al (U.S. Patent No. 6,868,417) in view of Black (U.S. Patent No. 6,978,324). Claims 7-11, 13-17, 19-20 and 22-23 stand rejected

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under 35 U.S.C. §103(a) as being unpatentable over Kazar et al in view of Black and further in view of Bachmat (U.S. Patent No. 6.272,571). These rejections are traversed as follows.

The claims have been amended to recite that upon receiving a split command directed to one of two volumes, handling either block-level I/O or file-level I/O requests, split processing is performed to both volumes handling both types of requests. The Examiner's attention is directed by way of example only to Figure 11 and paragraph 69 of the present application.

According to the present invention, the storage system has a consistency group including both a SAN volume and a NAS volume. When a split command is received and directed to one of these volumes, split processing is performed on both of these volumes. For example, if a host system that is connected to a LAN and only knows about a NAS volume pair, if a SAN volume pair is in a consistency group with the NAS volume pair, then split processing can be performed on both volume pairs without the host system knowing about the SAN volume pair.
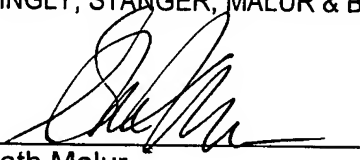
None of the cited references disclose these features of the presently claimed invention. In particular, none of the references disclose or suggest providing NAS volumes and SAN volumes in a consistency group such that when a split command is directed to one type of volume, split processing is performed for both types of volumes that are within the consistency group. As such, it is submitted that the pending claims patentably define the present invention over the cited art.

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Conclusion

In view of the foregoing, Applicant respectfully requests that a timely Notice of

Allowance be issued in this case.

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.

By_____

Shrinath Malur
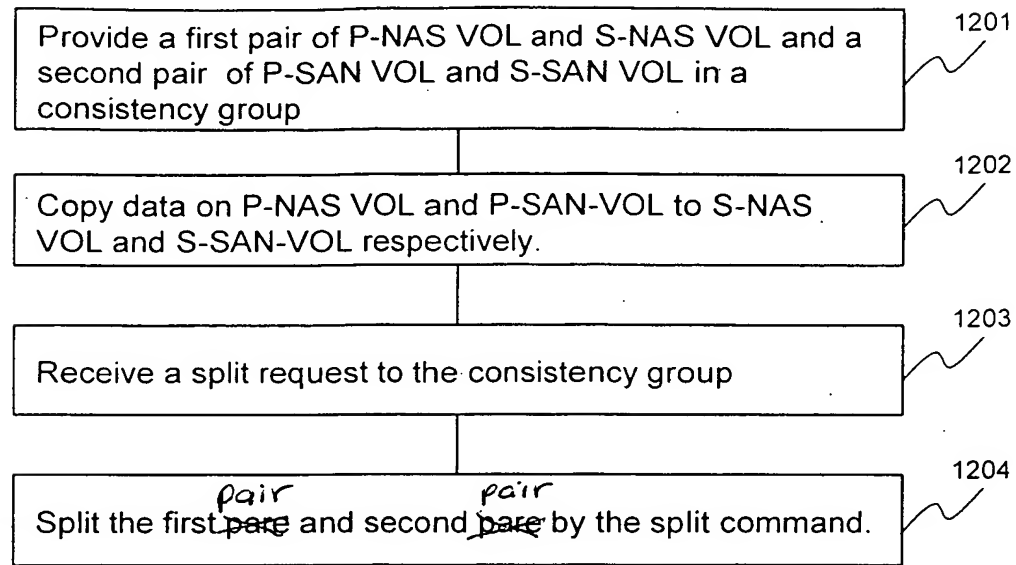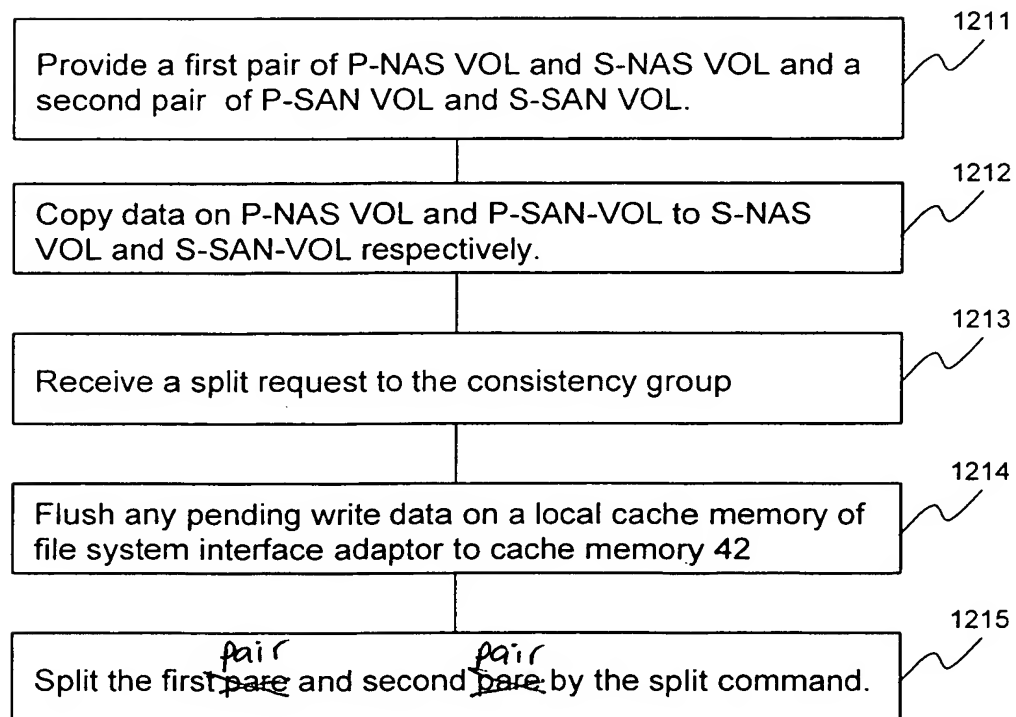
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Telephone: 650-326-2400
Inventors Shoji Kodama et al.
Title: Direct Access Storage System with Combined Blc.
Interface and File Interface Access
Sheets of drawings 12 of 13

Annotated Marked Up Drawings

Provide a first pair of P-NAS VOL and S-NAS VOL and a second pair of P-SAN VOL and S-SAN VOL in a consistency group — 1201

Copy data on P-NAS VOL and P-SAN-VOL to S-NAS VOL and S-SAN-VOL respectively. — 1202

Receive a split request to the consistency group — 1203

Split the first ~~pare~~ *pair* and second ~~pare~~ *pair* by the split command. — 1204

FIG. 12A

Provide a first pair of P-NAS VOL and S-NAS VOL and a second pair of P-SAN VOL and S-SAN VOL. — 1211

Copy data on P-NAS VOL and P-SAN-VOL to S-NAS VOL and S-SAN-VOL respectively. — 1212

Receive a split request to the consistency group — 1213

Flush any pending write data on a local cache memory of file system interface adaptor to cache memory 42 — 1214

Split the first ~~pare~~ *pair* and second ~~pare~~ *pair* by the split command. — 1215

FIG. 12B